

## METHOD AND APPARATUS FOR EFFICIENT VIDEO PROCESSING

### ABSTRACT OF THE DISCLOSURE

A video compression method and apparatus uses an active decoder. The corresponding encoder can produce an encoded bitstream with a greatly reduced overhead by encoding a reference frame based on the structural information inherent to the image (e.g., image segmentation, geometry, color, and/or brightness), and then predicting other frames relative to the structural information. Typically, the description of a predicted frame would include kinetic information (e.g., segment motion data and/or associated residues representing information in previously occluded areas and/or inexact matches and appearance of new information, and portion of the segment evolution that is not captured by motion per se, etc.). Because the decoder is capable of independently determining the structural information (and relationships thereamong) underlying the predicted frame, such information need not be explicitly transmitted to the decoder. Rather, the encoder need only send information that the encoder knows the decoder cannot determine on its own.

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